

CHAPTER 5

SPATIAL ORGANIZATION

5-1 OBJECTIVES

The Recreation Center should be spatially organized to encourage social interaction and user participation; to allow many diverse activities to occur simultaneously; and to facilitate administrative control of the Center. This Chapter describes spatial organizational principles that may be employed in the development and review of designs. A principle is defined here as a rule exemplified in the organization and layout of a building design. In order to provide guidance on how individual spaces and design elements go together, spatial organizational principles are expressed (and illustrated) as typical rules which describe how individual spaces go together to form functional areas, and how functional areas go together to form a building design.

5-2 PRINCIPLES

Spatial organization must be based primarily on the interrelatedness of activities, maximum flexibility of the Center, successful adaptation to site and climate variables, and possible Center expansion. These variables will be affected by achieving economic construction and mechanical systems layout, maintaining user safety and facility security, incorporating site amenities, and providing for use by the physically handicapped.

a. **INTER RELATEDNESS OF ACTIVITIES.** Activities should be grouped to maximize desirable effects (accessibility, control, multi-use) or separated to minimize conflicts (noise, activity incompatibility).

b. **FLEXIBILITY OF USE.** The spatial organization must allow the simultaneous occurrence of many diverse activities, from planned activities to spontaneously self-generated activities, by diverse groups of people.

Activity areas must be arranged to encourage casual interaction by using the transitional areas

for lounges and waiting areas and by enabling participants to see from one area into another.

c. **ADAPTATION TO SITE & CLIMATIC VARIABLES.** The spatial organization of a Recreation Center must consider the site variables (size, shape, contours, orientation, views, and natural features) and climatic variables (severe or temperate). For example, a Center which is to be constructed on a site with natural beauty, proper solar orientation and temperate climate may be outwardly oriented, with the activity spaces focused toward the outside of the building; if the Center is to be built in an area with a severe climate and generally unattractive surroundings, its spatial organization should be focused toward the interior of the Center.

d. **EXPANSION.** If a Center exhibits a strong likelihood for expansion of activities, the Center's spatial organization should be planned to permit a functional growth by increasing the number of spaces or by enlarging the existing spaces. As a Center expands, the necessity for flexibility decreases, because space usage is determined by administrative control.

5-3 CRITERIA

a. **ACTIVITY ANALYSIS.** Four variables which affect spatial organization should be analyzed.

(1) *Physical Access.* Physical access is the most important factor in spatial organization; its primary concerns are convenience of circulation, ease of administrative control, and potential for social interaction.

(2) *Acoustics.* The next most important criterion is acoustics, or the generation of disruptive noise by an activity. If a conflict arises between accessibility and acoustics, the accessibility requirements should govern location with the acoustical problem being treated technologically.

(3) *Visual Access.* The third factor governing spatial organization is visual access which is the capability of seeing from one area to another. This is important for administrative control and increasing awareness of alternative activities.

(4) *Compatibility.* Compatibility of activities, the fourth criterion, measures the level of interference one activity can tolerate from another without disturbance; gives consideration to requirements for privacy, concentration, and attention of the users; conflicting elements are noise, physical activity, and administration policy.

D. AFFINITY CRITERIA. These results of an activity analysis are summarized in Table 5-1, Affinity Matrix, which presents the adjacency

requirements for each space. The purpose of this matrix is to provide assistance in the establishment of priorities for planning spatial organization. If trade-offs are required because of design constraints, they can be evaluated in terms of the effect they will have on the function of the Center. Values have been assigned to spatial relationships as follows:





-  Necessary — the activity should be located immediately adjacent to other activities.
-  Desirable — the activity should be located near other activities.
-  Unimportant — location is not a factor.
-  Undesirable — the activity must be remotely located or acoustically separated from another.

Table 5-1. Affinity Matrix.

The diagram is a triangular grid representing the stadium's layout. The labels on the left, from top to bottom, are:

- Circulation/Lounge
- Entry/Lobby
- Central Program Area
- Platform
- Pantry
- Active Games Area
- TV Lounge
- Table Games Areas
- Open Multi-Purpose (sm & lrg)
- Enclosed Multi-Purpose (sm & lrg)
- Telephone Lounge
- Carrels
- Special Interest
- Control Center
- Administrative Offices
- ITT
- Vending
- Snack Bar/Amusement Center
- Maintenance Areas
- Public Toilets
- Terrace
- Entry Court
- Parking

The grid cells contain symbols: solid black circles, open circles, and stars. The distribution is as follows:

- Circulation/Lounge:** 1 solid black circle.
- Entry/Lobby:** 1 solid black circle, 1 open circle.
- Central Program Area:** 1 solid black circle.
- Platform:** 1 solid black circle, 1 open circle.
- Pantry:** 1 star, 1 open circle.
- Active Games Area:** 1 star, 1 open circle.
- TV Lounge:** 1 star, 1 open circle.
- Table Games Areas:** 1 star, 1 open circle.
- Open Multi-Purpose (sm & lrg):** 1 star, 1 open circle.
- Enclosed Multi-Purpose (sm & lrg):** 1 star, 1 open circle.
- Telephone Lounge:** 1 star, 1 open circle.
- Carrels:** 1 star, 1 open circle.
- Special Interest:** 1 solid black circle.
- Control Center:** 1 solid black circle.
- Administrative Offices:** 1 solid black circle, 1 open circle.
- ITT:** 1 star, 1 open circle.
- Vending:** 1 solid black circle, 1 open circle.
- Snack Bar/Amusement Center:** 1 solid black circle, 1 open circle.
- Maintenance Areas:** 1 solid black circle, 1 open circle.
- Public Toilets:** 1 star, 1 open circle.
- Terrace:** 1 solid black circle, 1 open circle.
- Entry Court:** 1 solid black circle.
- Parking:** 1 solid black circle.

5-4 CONCEPTS

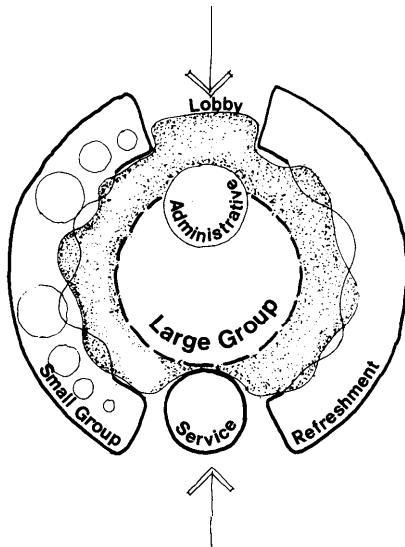
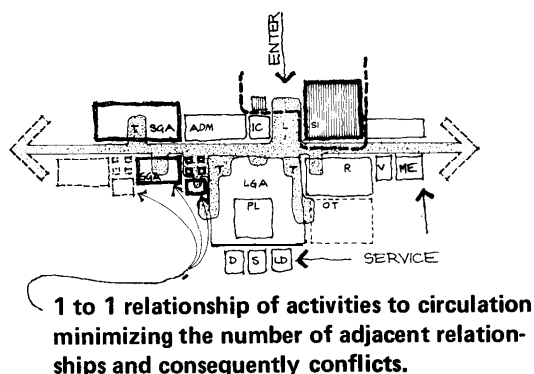


Figure 5-1 Spatial Organization Conceptual Diagram

a. **ORGANIZATION.** Based on the activity analyses, the Recreation Centers should be spatially organized to focus all small group activities on the central program area with the transitional spaces integrating the two elements. A hierarchy of characteristics should be established which orders the activities away from the central program area according to size – large to small; active to passive; communal to private. Highly used areas should be strategically located to draw users past new activities. This arrangement encourages movement, social interaction, and allows direct control of the greatest possible area and the largest number of people.

b. **SCHEMATICS.** Several basic spatial organization schemes can be developed by manipulating the transitional space. Each scheme is evaluated in terms of activity interrelationships, flexibility of use, adaptation to site and climate variables, and provision for expansion (see Table 5-2).

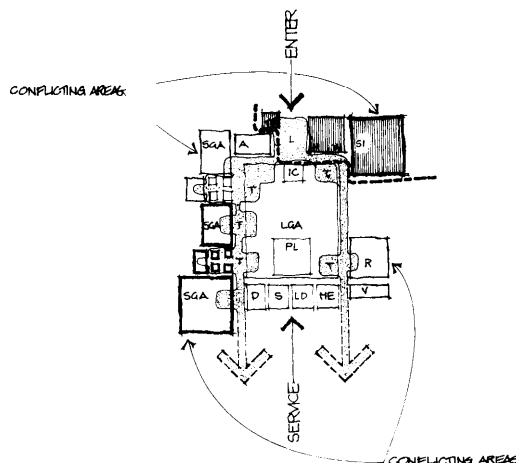
(1) *Linear.* The linear scheme is characterized by a single transitional spine along which activity spaces are arranged; central program area is centrally located.



Linear plan maximizes distance between activities which facilitates noise control but inhibits visual control. However, in smaller centers the proximity of activities necessitates a technological approach to sound control as well as planning considerations.

Figure 5-2 Linear Scheme

(2) *Central.* The Central scheme places the central program area in a core position with small group activities encircling it; the transitional space separates the two elements.



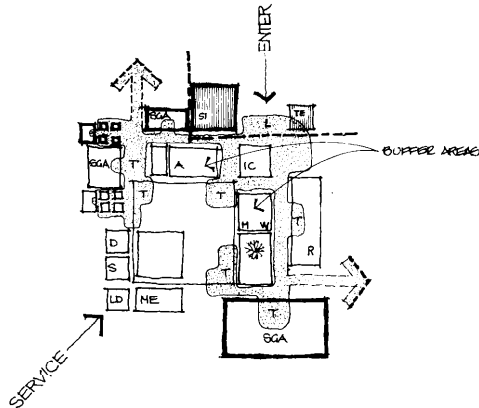
The large group activity area is central and separates conflicting small group activities. Since the large group area is adjacent to all other areas across the transitional area, opportunities for social interaction are maximized.

Figure 5-3 Central Scheme

Key

T	Transitional	PL	Platform
LGA	Large Group Activities	OT	Terrace
SGA	Small Group Activities	L	Lobby
SI	Special Interest	D	Dressing
ADM	Administrative	LD	Loading
IC	Control / ITT	TE	Telephone
R	Refreshment	S	Service
v	Vending	ME	Mechanical

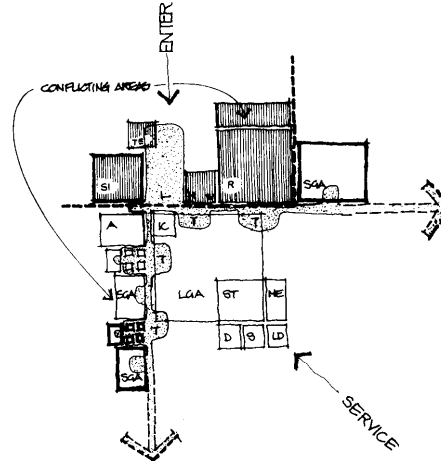
(3) *Dispersed.* The Dispersed scheme scatters spaces to reduce conflicts, uses enclosed spaces to buffer sound and separate open spaces. The transitional space acts as a decentralized link that both connects and separates activities.



Buffer activities separate the large group area from peripheral small group activities. This arrangement decreases opportunities for social interaction but allows diverse activities to occur within a relatively constricted area. Taking advantage of site conditions when possible, the roofs of buffer areas should become mezzanines or overlooks which visually connect peripheral areas and the large group area.

Figure 5-4 Dispersed Scheme

(4) *Axial* The Axial scheme combines the intents of the Linear and Central schemes; the transitional space is divided into two axial paths around the central program area which separate incompatible small group activities.



The central large group area separates conflicting small group activities and is adjacent to most areas including the lobby across the transitional area. This arrangement should maximize opportunities for social interaction.

Figure 5-5 Axial Scheme

Table 5-2. Spatial Organization Scheme Evaluation.

PRINCIPLES				
	LINEAR SCHEME	CENTRAL SCHEME	DISPERSED SCHEME	AXIAL SCHEME
	Activity Interrelationships Facilitates noise control Inhibits visual control Works best with Centers of 12,700 SF or less	Separates conflicting activities Facilitates visual control	Sound control excellent Reduces visual/physical access to all spaces	Separates areas with conflicting acoustical requirements well Visual/physical access facilitated
	Flexibility of Use More opportunities for social interaction Highly flexible	Maximum opportunity for social interaction because of visual and physical access	Spontaneous social interaction hampered Houses many diverse activities well with no dysfunctions	Locate popular activities at ends of axes to encourage movement past new activities
	Adaptation to Site Can be focused outwardly Requires solar path orientation Suitable for temperate climates Natural cooling results from orientation to prevailing winds	Focused inwardly Suitable for severe climates Plan level changes carefully for sloped sites	Similar to site adaptation for Central Scheme	"Functions well in all climates Adaptable to any site condition
	Expansion Potential Can be expanded at either end	Restrictive	Limited	Expansion can occur at ends of axes